

REMARKS

Initially, Applicants would like to express appreciation to the Examiner for the detailed Official Action provided, for the acknowledgment of Applicants' Claim for Priority and receipt of the certified copy of the priority document, and for the acknowledgment of Applicant's Information Disclosure Statement by return of the Form PTO-1449.

Upon entry of the above amendment, claims 13, 18, and 25 will have been amended. Accordingly, claims 13-30 are currently pending. Applicants respectfully request reconsideration of the outstanding rejections and allowance of claims 13-30 in the present application. Such action is respectfully requested and is now believed to be appropriate and proper.

Claims 13, 17, 18, 24, 25, and 30 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over TAKESHITA et al. (U.S. Patent Appl. Pub. No. 2005/0112415) in view of EHARA (U.S. Patent Appl. Pub. No. 2002/0142195).

Although Applicants do not necessarily agree with the Examiner's rejection of claims 13, 18, and 25 on this ground, nevertheless, Applicants have amended independent claims 13, 18, and 25 to clearly obviate the above noted ground of rejection in order to expedite prosecution of the present application. In this regard, Applicants note that TAKESHITA et al. and EHARA fail to teach or suggest the subject matter claimed in amended claims 13, 18, and 25. In particular, claim 13, as amended, sets forth a battery pack including, inter alia, a battery, a circuit substrate, and an end case, wherein "the circuit substrate is arranged inside the end case, the end case includes attachment holes at both ends thereof extending therethrough and each attachment hole includes a step near the bottom end thereof, and the end case is secured to the battery by screws, each with a screw head, the screw head extending through a respective attachment hole and engaging with the step in the attachment

hole in the end case at both ends and tips of the screws being engaged into the end face at both ends of the battery". Claim 18, as amended, sets forth a battery pack including, inter alia, a battery, a circuit substrate, and an end case, wherein "the circuit substrate is arranged inside the end case, the end case includes attachment holes at both ends thereof extending therethrough and each attachment hole includes a step near the bottom end thereof, and the end case is secured to the battery by coupling pins with heads, the heads of the coupling pins extending through a respective attachment hole and engaging with the step in the attachment hole in the end case at both ends and the tips of the coupling pins being secured to the end face at both ends of the battery". Claim 25, as amended, sets forth a battery pack including, inter alia, a battery, a circuit substrate, and an end case, wherein "the circuit substrate is arranged inside the end case, the end case includes attachment holes at both ends thereof extending therethrough and each attachment hole includes a step near the bottom end thereof, and the end case is secured to the battery by a coupling pin with heads, the heads extending through a respective attachment hole and engaging with the step in the attachment hole in the end case, such that the material forming the end face of the battery bites into a recess formed in an outer periphery at the tip of the coupling pin to secure the tip of the coupling pin to the end face of the battery".

This amendment is fully supported by the specification, including the claims and drawings, and no prohibited new matter has been added. In particular, Applicants' claimed battery pack 10 includes the battery 1, the end case 6, and the circuit substrate 5. To securely attach the battery and the end case, the end case 6 includes attachment holes 11 at both ends extending in the vertical direction and having a step 11a near the bottom end. Screws 12 are inserted in these attachment holes 11, with the screw heads 12a being engaged with the steps 11a, and the screw tips are driven into one end face 3 at both ends of the battery case 2. See particularly figures 1, 2A, and 2B; and

pages 15-16 of Applicants' specification. Accordingly, Applicants' claimed invention includes advantages over the prior art including improved attachment of the battery, end case, and circuit substrate.

The TAKESHITA et al. publication discloses a battery pack including a battery, a circuit substrate, a cover, and a plurality of engaging holes and engaging claws to secure the end case to the battery. The engaging holes are positioned in a horizontal axial orientation. However, as recognized by the Examiner, TAKESHITA et al. fails to teach or suggest screws or coupling pins engaging the end face of the battery.

The EHARA publication is directed to a battery pack including locking protrusions 43 and locking receivers 39 to secure the cover to the battery. The EHARA publication also teaches that the cover may be secured to the battery by "bolt and nut, caulking, engagement claws, bonding, etc". See paragraph [0062]. However, EHARA does not provide any further disclosure of the particulars of any of bolt and nut, caulking, engaging claw, or bonding securing devices. Moreover, while EHARA does mention "bolt and nut" as a securing device, EHARA does not teach or suggest a screw or a coupling pin to secure the cover to the battery. Further, EHARA also does not teach or suggest an end case including attachment holes at both ends thereof extending through the end case, with each attachment hole including a step near the bottom end thereof, such that the step is configured to receive a screw head or a coupling pin head, and the screw heads or coupling pin heads extending through the attachment holes and engaging the steps in the attachment holes, as set forth in amended claims 13, 18, and 25. EHARA also does not teach or suggest the tips of the screws or coupling pins engaging the end face of the battery, as set forth in claims 13, 18, and 25. Therefore, the EHARA publication fails to cure the deficiencies of the TAKESHITA et al. device, and even

assuming, arguendo, that the teachings of TAKESHITA et al. and EHARA have been properly combined, Applicants' claimed battery pack would not have resulted from the combined teachings thereof.

Further, there is nothing in the cited prior art that would lead one of ordinary skill in the art to make the modification suggested by the Examiner in the rejection of claims 13, 18, and 25 under 35 U.S.C. § 103(a) over TAKESHITA et al. in view of EHARA. Thus, the only reason to combine the teachings of TAKESHITA et al. and EHARA results from a review of Applicants' disclosure and the application of impermissible hindsight. Accordingly, the rejection of claims 13, 18, and 25 under 35 U.S.C. § 103(a) over TAKESHITA et al. in view of EHARA is improper for all the above reasons and withdrawal thereof is respectfully requested.

Applicants submit that dependent claims 17, 24, and 30 which are at least patentable due to their dependency from claims 13, 18, and 25 for the reasons noted above, recite additional features of the invention and are also separately patentable over the prior art of record based on the additionally recited features.

Claims 14-16, 21-23, and 27-29 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over TAKESHITA et al. in view of EHARA, and further in view of FUKUI (U.S. Patent Appl. Pub. No. 2004/0137314).

Applicants note that TAKESHITA et al. and EHARA fail to teach or suggest the subject matter claimed in amended independent claims 13, 18, and 25, as described above. Further, FUKUI fails to cure these deficiencies. Thus, for at least these reasons, even if the teachings of TAKESHITA et al., EHARA, and FUKUI were combined, as suggested by the Examiner, the claimed combination would not result. Moreover, there is nothing in the cited prior art that would

lead one of ordinary skill in the art to make the modification suggested by the Examiner in the rejection of claims 14-16, 21-23, and 27-29 under 35 U.S.C. § 103(a) over TAKESHITA et al. in view of EHARA and FUKUI. Thus, the only reason to combine the teachings of TAKESHITA et al., EHARA, and FUKUI results from a review of Applicants' disclosure and the application of impermissible hindsight. Accordingly, the rejection of claims 14-16, 21-23, and 27-29 under 35 U.S.C. § 103(a) over TAKESHITA et al. in view of EHARA and FUKUI is improper for all the above reasons and withdrawal thereof is respectfully requested.

Claims 19 and 20 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over TAKESHITA et al. in view of EHARA, and further in view of IWAIZOZO (U.S. Patent No. 6,524,739).

Applicants note that TAKESHITA et al. and EHARA fail to teach or suggest the subject matter claimed in amended independent claim 18, as described above. Further, IWAIZOZO fails to cure these deficiencies. Thus, for at least these reasons, even if the teachings of TAKESHITA et al., EHARA, and IWAIZOZO were combined, as suggested by the Examiner, the claimed combination would not result. Moreover, there is nothing in the cited prior art that would lead one of ordinary skill in the art to make the modification suggested by the Examiner in the rejection of claims 19 and 20 under 35 U.S.C. § 103(a) over TAKESHITA et al. in view of EHARA and IWAIZOZO. Thus, the only reason to combine the teachings of TAKESHITA et al., EHARA, and IWAIZOZO results from a review of Applicants' disclosure and the application of impermissible hindsight. Accordingly, the rejection of claims 19 and 20 under 35 U.S.C. § 103(a) over TAKESHITA et al. in view of EHARA and IWAIZOZO is improper for all the above reasons and withdrawal thereof is respectfully requested.

Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejections, and an early indication of the allowance of claims 13-30.

SUMMARY AND CONCLUSION

In view of the foregoing, it is submitted that the present amendment is proper and that none of the references of record, considered alone or in any proper combination thereof, anticipate or render obvious Applicants' invention as recited in claims 13-30. The applied references of record have been discussed and distinguished, while significant claimed features of the present invention have been pointed out.

Accordingly, consideration of the present amendment, reconsideration of the outstanding Official Action, and allowance of the present amendment and all of the claims therein are respectfully requested and now believed to be appropriate.

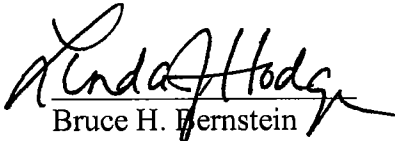
Applicants have made a sincere effort to place the present application in condition for allowance and believe that they have now done so.

Any amendments to the claims which have been made in this amendment, which do not narrow the scope of the claims, and which have not been specifically noted to overcome a rejection based upon the prior art, should be considered cosmetic in nature, and to have been made for a purpose unrelated to patentability, and no estoppel should be deemed to attach thereto.

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Should there be any questions, the Examiner is invited to contact the undersigned at the below listed number.

Respectfully submitted,
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